EXHIBIT I

Exhibit I

Claim Chart for U.S. Patent No. 9,462,411

Claim	Exemplary Infringement Analysis
1. A method comprising:	The Accused Products are capable of performing "a method." For example, using an iPhone to conduct financial transactions via Apple Pay satisfies the method recited in claim 1. https://support.apple.com/guide/iphone/use-apple-pay-for-contactless-payments-iphbd4cf42b4/ios Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendant.
sensing by a smartphone, using a smartphone-based sensor, physiological data associated with a living organism;	The Accused Products use a method that involves "sensing by a smartphone, using a smartphone-based sensor, physiological data associated with a living organism." For example, using an iPhone to conduct financial transactions via Apple Pay includes sensing, by an iPhone, using a sensor that is part of the iPhone, physiological data associated with a human user of an iPhone. iPhone-based sensors include a camera (for Face ID) or a physical sensor (for Touch ID), which can sense physiological data of the user such as facial geometry or a fingerprint.

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Claim	Exemplary Infringement Analysis
	When you use Apple Pay in stores When you use Apple Pay in stores that accept contactless payments, Apple Pay uses Near Field Communication (NFC) technology between your device and the payment terminal. NFC is an industry-standard, contactless technology that's designed to work only across short distances. If your iPhone is on and detects an NFC field, it will present you with your default card. To send your payment information, you must authenticate using Face ID, Touch ID, or your passcode (except in Japan if you designate a Suica card for Express Transit). With Face ID or with Apple Watch, you must double-click the side button when the device is unlocked to activate your default card for payment. After you authenticate your transaction, the Secure Element provides your Device Account Number and a transaction-specific dynamic security code to the store's point of sale terminal along with additional information needed to complete the transaction. Again, neither Apple nor your device sends your actual payment card number. Before they approve the payment, your bank, card issuer, or payment network can verify your payment information by checking the dynamic security code to make sure that it's unique and tied to your device. https://support.apple.com/en-us/HT203027 **Face ID security** With a simple glance, Face ID securely unlocks supported Apple devices. It provides intuitive and secure authentication enabled by the TrueDepth camera system, which uses advanced technologies to accurately map the geometry of a user's face. Face ID uses neural networks for determining attention, matching, and antispoofing, so a user can unlock their phone with a glance, even with a mask on when using supported devices. Face ID automatically adapts to changes in appearance, and carefully safeguards the privacy and security of a user's biometric data.

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Claim	Exemplary Infringement Analysis
	Touch ID security Touch ID is the fingerprint sensing system that makes secure access to supported Apple devices faster and easier. This technology reads fingerprint data from any angle and learns more about a user's fingerprint over time, with the sensor continuing to expand the fingerprint map as additional overlapping nodes are identified with each use. Apple devices with a Touch ID sensor can be unlocked using a fingerprint. Touch ID doesn't replace the need for a device passcode or user password, which is still required after device startup, restart, or logout (on a Mac). In some apps, Touch ID can also be used in place of a device passcode or user password—for example, to unlock password-protected notes in the Notes app, to unlock keychain-protected websites, and to unlock supported app passwords. However, a device passcode or user password is always required in some scenarios (for example, to change an existing device passcode or user password or to remove existing fingerprint enrollments or create new ones). https://support.apple.com/guide/security/face-id-and-touch-id-security-sec067eb0c9e/1/web/1 **Pay with your default card on an iPhone with Face ID** 1. Double-click the side button. 2. When your default card appears, glance at iPhone to authenticate with Face ID, or enter your passcode. 3. Hold the top of your iPhone near the card reader until you see Done or a checkmark on the screen. **Pay with your default card on an iPhone with Touch ID** 1. Rest your finger on Touch ID. 2. Hold the top of your iPhone near the card reader until you see Done or a checkmark on the screen. https://support.apple.com/guide/iphone/use-apple-pay-for-contactless-payments-iphbd4cf42b4/ios

Claim	Exemplary Infringement Analysis
	Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendant.
detecting that a proximity criterion is satisfied between the smartphone and an entity, wherein the entity is not the living organism;	The Accused Products use a method that involves "detecting that a proximity criterion is satisfied between the smartphone and an entity, wherein the entity is not the living organism." For example, using an iPhone to conduct financial transactions via Apple Pay includes detecting that a proximity criterion is satisfied between the iPhone and an entity such as a point-of-sale terminal. For example, an iPhone can detect the Near Field Communication (NFC) field radiated by a point-of-sale terminal, and the iPhone will ensure that the proximity criterion for the NFC communication is satisfied in connection with performing a financial transaction via Apple Pay. **When you use Apple Pay in stores** When you use Apple Pay in stores that accept contactless payments, Apple Pay uses Near Field Communication (NFC) technology between your device and the payment terminal. NFC is an industry-standard, contactless technology that's designed to work only across short distances. If your iPhone is on and detects an NFC field, it will present you with your default card. To send your payment information, you must authenticate using Face ID, Touch ID, or your passcode (except in Japan if you designate a Suica card for Express Transit). With Face ID or with Apple Watch, you must double-click the side button when the device is unlocked to activate your default card for payment. After you authenticate your transaction, the Secure Element provides your Device Account Number and a transaction-specific dynamic security code to the store's point of sale terminal along with additional information needed to complete the transaction. Again, neither Apple nor your device sends your actual payment card number. Before they approve the payment, your bank, card issuer, or payment network can verify your payment information by checking the dynamic security code to make sure that it's unique and tied to your device. https://support.apple.com/en-us/HT203027

Claim	Exemplary Infringement Analysis

	Pay with your iPhone
	
	1. To use your default card:
	
	    • If your iPhone has Face ID, double-click the side button. If prompted, authenticate with Face ID or enter your passcode to open Apple Wallet.
	
	    • If your iPhone has Touch ID, double-click the Home button.
	
	2. To use a different card, tap your default card to see your other cards. Tap a new card and authenticate.
	
	3. Hold the top of your iPhone near the contactless reader until Done and a checkmark appear on the display.
	
	https://support.apple.com/en-us/HT201239
	
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selectively communicating by the smartphone using a first air interface of a plurality of air	The Accused Products use a method that involves "selectively communicating by the smartphone using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor." For example, using an iPhone to conduct financial transactions via Apple Pay includes selectively communicating using NFC (a first air interface) out of a plurality of air interfaces with which the iPhone is capable of communicating. The

Claim	Exemplary Infringement Analysis
interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor;	communicating is responsive to the NFC field proximity criterion having been detected as being satisfied. The communicating is also responsive to the authentication of a value of the physiological data that was sensed by the iPhone such as recognizing and accepting a fingerprint or facial geometry associated with the user. **When you use Apple Pay in stores** When you use Apple Pay in stores that accept contactless payments, Apple Pay uses Near Field Communication (NFC) technology between your device and the payment terminal. NFC is an industry-standard, contactless technology that's designed to work only across short distances. If your iPhone is on and detects an NFC field, it will present you with your default card. To send your payment information, you must authenticate using Face ID, Touch ID, or your passcode (except in Japan if you designate a Suica card for Express Transit). With Face ID or with Apple Watch, you must double-click the side button when the device is unlocked to activate your default card for payment. After you authenticate your transaction, the Secure Element provides your Device Account Number and a transaction-specific dynamic security code to the store's point of sale terminal along with additional information needed to complete the transaction. Again, neither Apple nor your device sends your actual payment card number. Before they approve the payment, your bank, card issuer, or payment network can verify your payment information by checking the dynamic security code to make sure that it's unique and tied to your device. https://support.apple.com/en-us/HT203027

Claim	Exemplary Infringement Analysis

	Pay with your iPhone
	
	1. To use your default card:
	
	   • If your iPhone has Face ID, double-click the side button. If prompted, authenticate with Face ID or enter your passcode to open Apple Wallet.
	
	   • If your iPhone has Touch ID, double-click the Home button.
	
	2. To use a different card, tap your default card to see your other cards. Tap a new card and authenticate.
	
	3. Hold the top of your iPhone near the contactless reader until Done and a checkmark appear on the display.
	
	https://support.apple.com/en-us/HT201239
	
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refraining from communicating by the smartphone	The Accused Products use a method that involves "refraining from communicating by the smartphone using the first air interface absent said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying a criterion, even though the proximity criterion is detected as being satisfied."

Claim	Exemplary Infringement Analysis
using the first air interface absent said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying a criterion, even though the proximity criterion is detected as being satisfied;	For example, using an iPhone to conduct financial transactions via Apple Pay includes refraining from communicating using NFC (the first air interface) absent authentication by a fingerprint or facial geometry associated with the user (the value of the physiological data) that was sensed by the iPhone-based sensor such as a camera or Touch ID sensor. That is so even where the iPhone detects that the proximity criterion is satisfied.

Paying with cards using Apple Pay

Apple Pay can be used to pay for purchases in stores, within apps, and at websites.

Paying with cards in stores

If iPhone or Apple Watch is on and detects an NFC field, it presents the user with the requested card (if automatic selection is turned on for that card) or the default card, which is managed in Settings. The user can also go to Apple Wallet and choose a card, or when the device is locked, can:

- Double-click the side button on devices with Face ID
- Double-click the Home button on devices with Touch ID
- Using Accessibility features that allow Apple Pay from the Lock Screen

Next, before information is transmitted, the user must authenticate using Face ID, Touch ID, or their passcode. When Apple Watch is unlocked, double-clicking the side button activates the default card for payment. No payment information is sent without user authentication.

https://support.apple.com/en-us/HT203027

Claim	Exemplary Infringement Analysis
	## Apple Pay security and privacy overview Learn how Apple protects your personal information, transaction data, and payment information when you use Apple Pay. Apple Pay allows you to make easy, secure, and private transactions in stores, in apps, and on the web. You can also send and receive money with friends and family using Apple Cash (U.S. only). And with contactless rewards cards in Wallet, you can receive and redeem rewards when you pay using Apple Pay. Apple Pay is designed with your security and privacy in mind, making it a simpler and more secure way to pay than using your physical credit, debit, and prepaid cards. Apple Pay uses security features built-in to the hardware and software of your device to help protect your transactions. In addition, to use Apple Pay, you must have a passcode set on your device and, optionally, Face ID or Touch ID. https://support.apple.com/en-us/101554 Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendant.
selectively sending information by the smartphone to one or more other devices and receiving information by the smartphone from the one or more other	The Accused Products use a method that includes "selectively sending information by the smartphone to one or more other devices and receiving information by the smartphone from the one or more other devices responsive to said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying the criterion." For example, using an iPhone to conduct financial transactions via Apple Pay includes selectively sending information to one or more other devices (such as the point-of-sale terminal) and receiving information from the point-of sale terminal responsive to the value of the physiological data (a fingerprint or facial geometry associated with the user) satisfying a criterion. For example, an iPhone will confirm that the physiological data is approved for the user of the iPhone.

Claim	Exemplary Infringement Analysis
devices responsive to said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying the criterion; and	**Paying with cards using Apple Pay** Apple Pay can be used to pay for purchases in stores, within apps, and at websites. **Paying with cards in stores** If iPhone or Apple Watch is on and detects an NFC field, it presents the user with the requested card (if automatic selection is turned on for that card) or the default card, which is managed in Settings. The user can also go to Apple Wallet and choose a card, or when the device is locked, can: • Double-click the side button on devices with Face ID • Double-click the Home button on devices with Touch ID • Using Accessibility features that allow Apple Pay from the Lock Screen Next, before information is transmitted, the user must authenticate using Face ID, Touch ID, or their passcode. When Apple Watch is unlocked, double-clicking the side button activates the default card for payment. No payment information is sent without user authentication. After the user authenticates, the Device Account Number and a transaction-specific dynamic security code are used when processing the payment. Neither Apple nor a user's device sends the full credit or debit card numbers to merchants. Apple may receive anonymous transaction information such as the approximate time and location of the transaction, which helps improve Apple Pay and other Apple products and services. https://support.apple.com/guide/security/paying-with-cards-using-apple-pay-secfbd5c0e54/1/web/1 8. The **Issuer bank** passes back the *"authorization"* response to the **Payment Network**, which in turn passes it back to the **Acquirer Bank (Merchant Bank)**, which in turn passes it back to the **POS** terminal, and your transaction is approved on the POS (The POS further transmits this to the iPhone through NFC, and you get a green check on your phone that the transaction was approved). https://codeburst.io/how-does-apple-pay-actually-work-f52f7d9348b7

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communicating by the smartphone using a second interface of the plurality of air interfaces with which the smartphone is capable of communicating that differs from the first air interface.	The Accused Products use a method that includes "communicating by the smartphone using a second interface of the plurality of air interfaces with which the smartphone is capable of communicating that differs from the first air interface." For example, a user can use an iPhone for communicating using a second interface such as a cellular data network of the plurality of air interfaces with which the iPhone is capable of communicating. A cellular data network differs from the first air interface, NFC. **Connect iPhone to a cellular network** Your iPhone automatically connects to your carrier's cellular data network if a Wi-Fi network isn't available. If iPhone doesn't connect, check the following: 1. Verify that your SIM is activated and unlocked. See Set up cellular service on iPhone. 2. Go to Settings ⚙ > Cellular. 3. Verify that Cellular Data is turned on. If you're using Dual SIM, tap Cellular Data, then verify the selected line. (You can choose only one line for cellular data.) https://support.apple.com/guide/iphone/set-up-cellular-service-iph3f11fba92/16.0/ios/16.0

iPhone 15 Pro
iPhone 15 Pro Max
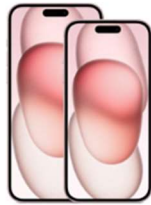
iPhone 15
iPhone 15 Plus

iPhone 14
iPhone 14 Plus

iPhone SE

iPhone 13

iPhone 15 Pro and iPhone 15 Pro Max

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Model[3]	5G Bands	LTE Bands[2]	Country or Region
iPhone 15 Pro Model A2848 iPhone 15 Pro Max Model A2849	n1 (2100 MHz) n2 (1900 MHz) n3 (1800 MHz) n5 (850 MHz) n7 (2600 MHz) n8 (900 MHz) n12 (700 MHz) n14 (700 PS) n20 (800 DD) n25 (1900 MHz) n26 (800 MHz) n28 (700 APT) n29 (700d MHz) n30 (2300 MHz) n38 (TD 2600) n40 (TD 2300) n41 (TD 2500) n48 (TD 3600) n53 (TD 2500) n66 (AWS-3) n70 (AWS-4) n71 (600 MHz) n75 (SDL 1500) n76 (SDL 1500) n77 (TD 3700) n78 (TD 3500) n79 (TD 4700) n258 (26 GHz) n260 (39 GHz) n261 (28 GHz)	1 (2100 MHz) 2 (1900 MHz) 3 (1800 MHz) 4 (AWS) 5 (850 MHz) 7 (2600 MHz) 8 (900 MHz) 12 (700 MHz) 13 (700c MHz) 14 (700 PS) 17 (700b MHz) 18 (800 MHz) 19 (800 MHz) 20 (800 DD) 25 (1900 MHz) 26 (800 MHz) 28 (700 APT) 29 (700d MHz) 30 (2300 MHz) 32 (1500 L-band) 34 (TD 2000) 38 (TD 2600) 39 (TD 1900) 40 (TD 2300) 41 (TD 2500) 42 (TD 3500) 46 (TD Unlicensed) 48 (TD 3600) 53 (TD 2500) 66 (AWS-3) 71 (600 MHz)	Puerto Rico United States

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Claim	Exemplary Infringement Analysis
	https://www.apple.com/iphone/cellular/ **Wi-Fi specifications for Apple devices** The following are Wi-Fi specification details for Apple devices. Descriptions of the details are as follows: • *802.11 compatibility and frequency band:* 802.11ax (Wi-Fi 6 and Wi-Fi 6E), 802.11ac (Wi-Fi 5), 802.11n (Wi-Fi 4), 802.11a, 802.11b/g and 2.4 GHz or 5 GHz. Apple platforms supporting Wi-Fi 6E can join Wi-Fi 6E networks that are discoverable on 2.4 GHz or 5 GHz channels, and on 6 GHz Preferred Scanning Channels, where 6 GHz is allowed by regulatory domain. https://support.apple.com/guide/deployment/wi-fi-specifications-for-apple-devices-dep268652e6c/web Investigation of both the patent and the Accused Products (and other potentially infringing products) is ongoing. This chart is based on evidence and analysis reasonably accessible at this time. Telcom reserves the right to update and amend the above as the litigation progresses, including in view of discovery provided by the Defendant.